



WATER TAP

WASHINGTON'S DRINKING WATER NEWSLETTER

It's not *IF*, but *WHEN*

A major volcanic eruption could affect your water system

Recent volcanic activity at Mount St. Helens is attracting media attention and causing concern for some Washington citizens. Memories of the May 1980 eruption are being revisited, and people are asking what they should do to prepare for the next big blast.

For drinking water systems, a volcanic eruption could cause high turbidity, water shortages, extra wear and tear on equipment, and an elevated threat to public health from microbial and mineral contaminants.

High turbidity: Water systems with surface sources located near the volcano may experience very turbid water as a result of mudflows or flooding, while those farther away may experience increased turbidity as a result of fallen volcanic ash. The closer to the volcano the heavier and coarser the ash will be, and the faster it will settle out.

TIP Alum effectively coagulates fine ash particles and improves settling and filtration.

Water shortages: The most significant impact of a major volcanic eruption on water systems, outside the immediate area, will be the high demand for water. Residents will be washing their cars, driveways and roofs. Businesses will be washing sidewalks and parking lots. Municipalities will be trying to clean the streets. This high demand may result in low water pressure, insufficient water for firefighting, and temporary water outages.



Mount St. Helens releases steam as the lava dome continues to expand inside the crater. *USGS Photograph taken in October by Steve Schilling.*

TIP Advise customers to wait a day or two after the eruption to clean up. In fact, if volcanic ash is present, citizens are advised to stay inside with the windows closed. Volcanic ash is not poisonous. But, it can cause symptoms like a runny or stuffy nose, sore throat, cough, chest tightness and eye irritation.

Microbes and minerals: Low water pressure and water outages increase the risk of contamination from unprotected cross connections. Volcanic ash also may lower the pH of surface-supplied water for a short period of time.

TIP Increase your chlorine feed to help protect your system from unprotected cross connections. Also, consider adjusting your controls to keep more water available in your storage tank(s).

Wear and tear on equipment: Volcanic ash varies from "gritty" to "flour like," depending on the distance from the volcano. Ash in the water may increase wear on pumps and clog filters. Airborne, it will infiltrate almost every opening and could damage equipment with moving parts and electrical contacts.

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THE DIRECTOR'S COLUMN

BY DENISE ADDOTTA CLIFFORD



I enjoyed seeing many of you at our recent drinking water seminars, and hope those who were unable to attend this year will be able to join us in 2005.

Here at the Office of Drinking Water, we're continuing to respond to a wave of intense public scrutiny about

lead in drinking water. Shortly after problems with Washington D.C.'s water system raised questions about lead in drinking water, high lead levels were found in drinking water fixtures in some Seattle schools. This raised concerns among reporters and policymakers about lead and children's health.

Fortunately, there appears to be no significant problem with elevated lead levels in the blood of children tested in Washington. According to the Department of Health's lead registry data, less than one percent of all children screened for blood lead in 2003 showed elevated levels, and drinking water has never been found to be a source of high blood lead levels in our state. Washington's kids are at much higher risk from lead in paint, soil, and traditional folk remedies.

Nonetheless, we are concerned about the health effects of lead contamination, especially in young children. And we cannot afford to minimize people's fears. The U.S. Environmental

Protection Agency estimates that, nationally, about 20 percent of lead exposure is associated with drinking water.

In September, Governor Locke announced he was making \$750,000 available to help public elementary schools across the state sample for lead in their drinking water fixtures. We are working closely with the Office of the Superintendent of Public Instruction to begin providing these 75 percent matching grants to schools.

Meanwhile, we developed guidance for schools on how to monitor water from fixtures, and we've participated in healthy schools workshops throughout the state.

The lead story continues to broaden, though, and we expect it will receive continued attention during coming months. Don't be surprised if media and others begin to look closely at utilities' compliance with the Lead and Copper Rule. If that happens, give us a call at (360) 236-3142. We can help you respond to questions, and provide context.

As you well know, there's never a dull moment in drinking water. Or, as a Saturday Night Live character once memorably said: "It's always something."

Thanks for all that you do to assure safe, reliable drinking water.

Plan now to attend 27th Annual Washington Water/Wastewater Operations Workshop

Mark your calendar now to attend the 27th Annual Washington Water/Wastewater Operations Workshop (WOW) scheduled for March 21-24, at the Wenatchee Convention Center.

The workshop is sponsored by the Washington Environmental Training Center (WETRC) at Green River Community College in Auburn. You can earn up to 2.0 Continuing Education Units toward your professional growth certification renewal requirement by designing your own attendance schedule.

The Program Committee, chaired by Wenatchee residents Dan Curry and Ruta Jones, has planned more than 60 technical sessions in the areas of water distribution, water treatment, operation and maintenance, small water systems, advanced training and hot topics.

You will also want to browse the vendor displays, featuring more than 50 companies, and learn about the latest in utility equipment and supplies.

WETRC will mail detailed registration information in January. If you attended WOW before, we look forward to seeing you again this year in Wenatchee. If you haven't attended in the past, join us this year and take advantage of the training opportunities at the largest operator's conference in the Pacific Northwest.

TIP Cover computers, electrical contacts and telemetering or SCADA (system control and data acquisition) equipment to protect them from ash.

Prepare now for a possible eruption

How your system responds when (not if) Mt. Saint Helens erupts, will depend on how well your staff and facilities are prepared to respond. Take time now to consider how an eruption could affect your system (facilities and people), and the best ways to ensure your customers continue receiving safe and reliable drinking water.

Have all water system staff, volunteers, and elected officials review your system's emergency response plan. Decide when you will implement the various response actions. For example, establish a low water pressure point that might trigger an increase in the volume of water pumped or steps to reduce the demand. And prepare key messages for the public. Prompt effective communication between utility staff, and between the utility and the community, is the key in managing emergency situations.

If your system does not have an emergency response plan, now is a good time to prepare one. Pull your team together to decide how you will:

- Manage water demand if your system can't keep up.
- Increase your source water supply. Consider your emergency well or an intertie.
- Respond to consumer complaints and communicate with them about conserving water, water quality, or other concerns.
- Allocate staff and equipment if an ash fallout occurs.

TIP If an emergency well is an option, prepare it for use by disinfecting it and flushing the pipes. At a minimum, sample for coliform and nitrates, and know these results before connecting the source to the water system. If the emergency source is surface water or groundwater under the influence of surface water, call your regional office for advice on pre-start up procedures and sampling requirements.

Eastern Region: (509) 456-3115

Northwest Region: (253) 395-6750

Southwest Region: (360) 664-0768

For more information, visit our Web site at <http://www.doh.wa.gov/sh2004.htm>

Consumer Confidence Report late?

EPA says federal enforcement action possible

All Group A water systems are required to develop an annual Consumer Confidence Report (CCR) and send it to their customers by July 1. A copy of the CCR and a completed CCR certification form must also be submitted to the Office of Drinking Water (ODW) by October 1.

Every year, some water systems fail to submit the required documentation to ODW. And every year ODW reports those systems to the U.S. Environmental Protection Agency (EPA). This year, for the first time, EPA is notifying the delinquent systems that they are in significant non-compliance with federal law.

Water systems do not have to collect new data to develop a CCR. The report summarizes water quality information the system collected during the previous calendar year. It tells customers where their water comes from; what the water system does to deliver safe drinking water to them; what contaminants, if any, are in the water; and how those contaminants may affect their health.

This information allows customers to make informed decisions about the water they drink, and get involved in protecting or improving their drinking water resources.

Consumer Confidence Reports were included in 1996 amendments to the federal Safe Drinking Water Act. The first reports were due in 1998. For more information, visit the ODW Web site at http://www.doh.wa.gov/ehp/dw/our_main_pages/consumer.htm

If you represent one of the delinquent systems, you can get information and technical assistance by calling ODW at:

- **Eastern Region:** (509) 456-3115
- **Northwest Region:** (253) 395-6750
- **Southwest Region:** (360) 664-0768
- **Headquarters:** (800) 521-0323

Drinking Water State Revolving Fund 2005 application deadline in May

Now is the time to prepare for the next Drinking Water State Revolving Fund cycle. This low-interest loan program provides reimbursement for capital construction projects intended to improve drinking water systems and protect public health.

Both publicly owned (municipal) and privately owned Group A water systems are eligible to apply.

Deadlines

- Drinking Water State Revolving Fund (DWSRF) applications are due to the Office of Drinking Water (ODW) in May.
- To be eligible, a proposed DWSRF project must be included in a current state-approved Water System Plan or Small Water System Management Program.

The deadline for submitting a Water System Plan to ODW is Sept. 30, 2005.

The deadline for submitting a Water System Plan Amendment or Small Water System Management Program to ODW is Nov. 30, 2005.

- The required plan must be approved by January 31, 2006.
- Systems that fail to meet these deadlines will become ineligible for funding.

Look for information on the 2005 cycle in the February issue of *Water Tap*. It will include DWSRF loan terms, the application deadline, and explain how to register for application workshops.

Resources

Potential applicants are strongly encouraged to contact their ODW regional office immediately to find out their planning requirements.

Eastern Region: (509) 456-3115

Northwest Region: (253) 395-6750

Southwest Region: (360) 664-0768

Water system planning requirements are on the ODW Web site at http://www.doh.wa.gov/ehp/dw/fact_sheets/Planning_requirements_for_PWS.htm

In February, program guidelines and the application form will be available on the ODW Web site at http://www.doh.wa.gov/ehp/dw/our_main_pages/dwsrf.htm

For more information, please call Chris Gagnon at (360) 236-3095 or e-mail chris.gagnon@doh.wa.gov

Infrastructure Assistance Coordinating Council

The Infrastructure Assistance Coordinating Council (IACC) offers information on infrastructure funding and technical assistance on the Internet at <http://www.infracollaboration.org/>

IACC is a nonprofit organization of state and federal agencies, local government associations, nonprofit technical assistance firms, tribes and universities. It helps Washington communities identify and obtain resources they need to develop, improve and maintain public works programs. Together with the IACC, communities are better able to provide the infrastructure needed to enhance, preserve and protect Washington's environment and quality of life.

Filter-to-waste

Tips for surface water sources with rapid rate filtration

Filter-to-waste capability is required for all new surface water filtration plants. If you do not have filter-to-waste capability, the Office of Drinking Water strongly recommends you consider installing it.

Properly operated filter-to-waste processes can significantly reduce the risk that disease-causing organisms, or pathogens, will enter the distribution system. Filter-to-waste should be used after each filter backwash and may be used before filter runs to prevent poor quality water from reaching your customers.

Filter-to-waste piping can also be used during normal operations when there is likely to be an increase in the filtered water turbidity, such as prior to all filter re-starts.

Separating the good from the bad

In general, filtered water quality is poorest immediately after a filter is backwashed and a new filter run starts.

Filter-to-waste was originally known as "re-wash" because particles can be flushed out in both directions. In any case, this high turbidity water should be filtered to waste until the finished water turbidity drops below 0.1 NTU (nephelometric turbidity units).

The more turbid the water is, the greater the risk that pathogens may be present. A filter-to-waste process will divert these pathogens from your system and protect your customers.

Some guidelines

Watch the turbidity, not the time – Following a backwash, filtered water should be sent to waste until the turbidity is 0.1 NTU or less. Electronic particle counters may also provide important information about the quality of water being produced by the filters.

Mind the backflow – To prevent dirty water from entering the finished water pipe, it is important to provide a proper air gap between the filtered water and the backwash waste line.

Treat your filters with care – Many approaches can be used to reduce the size of the filter start-up spike and the amount of time that is needed for the filtered water to drop below 0.1 NTU.

The following approaches apply to all rapid rate facilities, but may be especially helpful if your plant is not equipped with, or has undersized or non-operable, filter-to-waste piping and valves.

- **Filter Resting** – Allow filters to rest or "settle in" for at least 15 minutes before returning them to service.
- **Slow Startup** – The initial turbidity spike can be managed by gradually increasing the filtration rate over time.
- **Feeding a small dose of filter aid polymer**, such as starch or polyacrylamide, to the filter inlet header.

With these tools in mind, you can modify your standard filter-to-waste operating procedure to figure out how to produce the safest water you can for your community.

The next dimension in water utility planning

Office of Drinking Water staff nearly always begin a presentation with our mission statement: To protect the health of the people of Washington state by assuring safe and reliable drinking water.

Most often, our focus is on keeping your drinking water safe. However, the Municipal Water Law, passed by the 2003 Legislature, increased our focus on the *reliable drinking water* aspect of our mission.

You may have heard that the Municipal Water Law provided for certainty and flexibility of water rights for many water systems, and that it encouraged a new focus on efficient and responsible stewardship of water resources.

What you may not know, is how that new focus affects your water system and how interactions between your water system and the Office of Drinking Water (ODW) might change to address aspects of the Municipal Water Law.

Municipal Water Suppliers

The Municipal Water Law applies to a select group of water systems termed "Municipal Water Suppliers." This term generally applies to Group A community systems and some non-community systems that have residential type uses. It also applies to a variety of government-owned water systems.

The Municipal Water Law created stronger ties between ODW approvals and water rights. It also forged tighter links between water system planning and local land use and watershed planning.

You can find out if the Municipal Water Law applies to your water system by reviewing *Municipal Water Law: Interim planning guidance – Municipal Water Supplier*, an information sheet posted on

our Web site at http://www.doh.wa.gov/ehp/dw/municipal_water/attachment_3.pdf

Benefits and responsibilities

The Municipal Water Law is complex, and is in the early stages of implementation. Our goal is to provide water systems the guidance they need to successfully implement the law. We believe it provides many water systems with opportunities for flexibility and certainty of water resources, but also comes with added responsibilities.

Benefits

- Protects Municipal Water Suppliers from relinquishment of their water rights (due to non-use of the water).
- Allows the place of use in a water right to expand to a Municipal Water Supplier's service area identified in an approved small water system management program or water system plan.
- Replaces connection or population limitations that may be identified on a water right with the Municipal Water Supplier's ODW-approved number of connections.

Responsibilities

- Addressing consistency linkages between local government (land use, development regulations, etc.) and watershed planning (for approved watershed plans) during water system plan and small water system management program approval processes.
- Continuing consideration of water rights into ODW approvals (including water system plans, small water system management programs, engineering documents and source approvals).

- Providing service to applicants within a retail service area (for municipal water suppliers with approved water system plans).

ODW is responsible for developing Water Use Efficiency Rules for Municipal Water Suppliers by the end of 2005. Efforts to develop the rule are already underway. For more information on the rule development process, visit our Web site at http://www.doh.wa.gov/ehp/dw/municipal_water/municipal_water_law.htm

Resources

ODW is available to help your water system meet the requirements of the law. Please call your regional planner when Municipal Water Law questions arise that affect your water system.

Eastern Region

Megan Harding (509) 456-2717
Deana Taylor (509) 456-5067

Northwest Region

Richard Rodriguez (253) 395-6771

Southwest Region

Karen Klocke (360) 664-2999



Protect your water system and yourself from legal liability

Adam Berger, an attorney from the Seattle law firm of Schroeter, Goldmark and Bender, offered tips to minimize the potential for lawsuits and claims at this year's Drinking Water Seminars.

Appearing on videotape, Berger, who has represented many homeowners in cases against water systems, outlined common problems, listed reasons homeowners typically contact attorneys, and recommended that all water systems purchase insurance.

The most common problems for water systems are failure to monitor water quality, failure to promptly and aggressively solve a problem, and failure to communicate with customers.

Why water customers contact attorneys:

- Customer has experienced repeated and prolonged problems.
- It appears the water system is not doing anything to address the problem, or is not taking the problem seriously.
- The water system fails to respond to phone calls, letters or e-mail.
- Customer is just plain fed up with the water system.

Legal actions are usually taken against a water system, rather than an operator or board member. An operator or board member may be held personally responsible if:

- The water system does not abide by its bylaws, and articles of incorporation.
- He or she willfully and deliberately acts illegally, falsifying records for example.
- He or she orders unlawful activities or makes a deliberate decision to violate a rule.

To avoid lawsuits and claims:

- Make good informed decisions.
- Work cooperatively with the Office of Drinking Water.
- Act in good faith.
- Prioritize problems and efforts.
- Communicate with your customers.

Recommended insurance coverage:

Finally, Berger advises water systems to have insurance. Without insurance, individual investors are at risk of being sued. Minimum coverage should include:

- General liability
- Vehicle
- Property and equipment
- Director's errors and omissions
- Crime

The insurance industry also recommends all water systems have an annual insurance review to ensure you have adequate coverage (i.e., new facilities), and that you understand your coverage.

Most common types of claims and lawsuits:

- **Property damage:** Resulting from a leak, broken water main, or tank rupture.
- **Nuisance:** Such as no water, poor quality water, or the inability to sell or build a house.
- **Personal injuries:** Related to illness, equipment or facilities.
- **Wrongful acts:** Such as falsifying records or deliberately doing something illegal.
- **Employment related:** All water system staff and contractors should have a good, relatively detailed, job description. It should identify job responsibilities and define the expectations the supervisor or board has for the position.

4th Annual Drinking Water Taste Test

Evergreen Rural Water of Washington (ERWOW) is looking for the best tasting water in Washington. Small and rural utilities are encouraged to enter the competition, which takes place Feb. 9 at the ERWOW annual conference and tradeshow in Yakima.

The winner will be selected by ERWOW to represent the state in a national taste test in April at the National Rural Water Association rally in Washington D.C. The association sponsors the taste test to bring national attention to the high quality of water provided by small and rural water utilities. Competition is stiff, with entries from members representing 45 states.

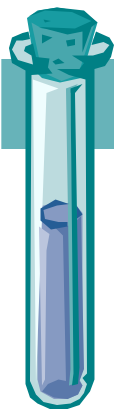
Former winners of the Yakima contest include Columbia Rim Homeowners Association, City of Oakville, Badger Mountain Irrigation District, and Warden Hutterian Brethren.

Contest Rules:

- 1) Bring a one-quart sample of water from your distribution system to the registration desk by 3 p.m. the first day of the conference. ERWOW will refrigerate it until the contest.
- 2) Competition will be in two categories:
 - a. Water with a disinfectant
 - b. Water without a disinfectant
- 3) Fill out one entry form per sample. (You may submit only one sample per water source.)
- 4) Water will be judged at lunch Wednesday. Winners will be announced at the banquet that evening.
- 5) You must be a member of Evergreen Rural Water to compete.

For more information, or to obtain an entry form, call (800) 272-5981.





Surface Water System Update

The **Long Term 1 Enhanced Surface Water Treatment Rule** that goes into effect in January will improve public health protection by lowering turbidity levels and reducing the potential of a waterborne disease outbreak. The rule applies to public water systems serving less than 10,000 people that use surface water or ground water under the direct influence of surface water.

Systems that need to make capital improvements to comply with the rule may request a two-year extension.

The new requirements were described in the September 2004 *Water Tap*. This article provides more information for conventional, direct, and in-line filtration systems, which the rule requires to conduct individual filter effluent (IFE) turbidity monitoring.

Individual filter effluent turbidity monitoring

Conventional, direct, and in-line filtration systems must continuously monitor the finished water turbidity from each filter. Systems with two filters may record combined filter effluent (CFE) turbidity measurements in lieu of individual filter measurements.

Turbidity measurements must be recorded every 15 minutes that drinking water is produced. And these records must be kept for at least three years.

If there is a failure in the continuous turbidity monitoring equipment, you must conduct grab sampling every four hours until the turbidimeter is back on-line. Your system has 14 days to resume continuous monitoring before a violation is incurred.

Reporting requirements

Every month, water systems must confirm to the Office of Drinking Water (ODW) that they've conducted IFE monitoring. ODW has developed a form for IFE reporting that will be mailed to all affected systems.

Water systems must also report IFE measurements and corrective actions when the following conditions occur:

1. **Turbidity exceeds 1.0 NTU (nephelometric turbidity units) in two consecutive recordings 15 minutes apart at the same filter or CFE.** You must report the IFE measurements to ODW by the 10th of the following month. The report must include the filter number(s), corresponding date(s), turbidity values in excess of 1.0 NTU, and the cause (if known) of the excess.
2. **Turbidity exceeds 1.0 NTU in two consecutive recordings 15 minutes apart in the same filter or CFE for three consecutive months.** You must conduct a self-assessment of the filter(s) within 14 days, unless a comprehensive performance evaluation (CPE) was required after the second month (as described below).
3. **Turbidity exceeds 2.0 NTU in two consecutive recordings 15 minutes apart at the same filter for two months in a row or CFE.** You must arrange to have a CPE conducted within 60 days. The CPE must be submitted to ODW within 120 days. If a CPE has been done within the last 12 months, a new CPE is not required.



Resources

The U.S. Environmental Protection Agency (EPA) has published guidance on filter self-assessments (FSAs) and CPEs. See **Long Term 1 Enhanced Surface Water Treatment Rule Turbidity Provisions Technical Guidance Manual** (EPA-816-R-04-007, August 2004) on the Internet at http://www.epa.gov/safewater/mdbp/pdf/lt1_turb_08-04.pdf

ODW is developing technical assistance options for systems conducting FSAs and CPEs. Information will be provided as options are developed.

For more information, please call your regional surface water program lead:

Eastern Region: Michael Wilson
(509) 456-3186

Northwest Region: Nancy Feagin
(253) 395-6765

Southwest Region: Jim McCauley
(360) 664-8734



Sheldon of Omak appointed vice president of the National Rural Water Association

Fred Sheldon, public works director for the City of Omak, has been appointed vice president of the National Rural Water Association. NRWA is the nation's largest utility association, with more than 24,550 members.

Sheldon will help the association continue meeting the regulatory, environmental, and legislative challenges facing the rural water industry. He also serves on the board of directors for Evergreen Rural Water of Washington.

NRWA is a non-profit federation of state rural water associations. Every year, these state associations train more than 55,000 water and wastewater system personnel, and provide more than 90,000 on-site technical assistance visits. For more information, visit NRWA's Web site at <http://www.nrwa.org/>

Protect the environment by getting rid of chlorine in discharge water

If you use a chlorine compound to disinfect your drinking water, you should review the surface water quality standards administered by the Department of Ecology.

Although toxicity to fish is not usually a public health concern, it is an important consideration in developing and implementing good management practices. And part of the responsibility of operating a water system is to be a good steward of the environment – as required by the Clean Water Act and by Ecology.

Utilities can discharge chlorinated water through:

- Reservoir overflows
- Reservoir cleaning (Super chlorinating)
- Leaks and leak repairs
- Line flushing
- Hydrant testing
- New construction super chlorination and cleaning
- Bypass pumping of the well, if done after treatment

Ecology has set standards for acute and chronic contaminants entering surface water, including chlorine. The maximum allowable chlorine levels for discharge to surface water are:

Freshwater Discharge: 0.019 mg/l or less,
total chlorine residual

Marine Discharge: 0.013 mg/l or less,
total chlorine residual

Please note that these standards are set for total chlorine, not free chlorine residual.

Develop a dechlorination plan



Water utilities must use dechlorination techniques to achieve these levels so they can avoid damage to the environment – and avoid fines and penalties. Since this must be done in the field under a number of different conditions, water utilities should develop a dechlorination plan.

The plan should include what chemical or device will work best for the situation, and what levels of dechlorination will be needed to meet the discharge rate and level of chlorine to be removed.

Employees should be familiar with the plan before a discharge event occurs. A chlorine test kit should always be nearby so they can verify the dechlorination is effective.

Dechlorination equipment

Skagit PUD has pioneered the use of Vitamin C to dechlorinate water. System operators had to figure out how to apply it effectively. Other chemicals are effective, such as those routinely used in wastewater treatment plants.



At other water systems, employees build their own application systems out of buckets, hoses and mesh bags for tablet, powder or liquid application of the dechlorination chemical of their choice to the discharging chlorinated water.

Since dosage is not easily controlled, there is an amount of trial and error. Operators routinely check the total residual level to ensure dechlorination is adequate, and that they are not releasing too much of the dechlorination chemical.

Some companies are now marketing field equipment for dechlorination. Some equipment is designed to proportion the dosage in a more accurate way.

For more information

Check your trade journals for advertisements, or call your pipe and equipment suppliers. Vendors may be available to provide demonstrations or explanations on site and at water works conferences.

Talk to your utility consultant, fellow utility operators, and technical service providers for their success stories and for specific information on how they dechlorinate.

To learn more about water quality standards for surface waters, visit the Department of Ecology Web site at <http://www.ecy.wa.gov/biblio/wac173201a.html>

State conducts drinking water counter-terrorism exercises



Exercise participants coordinate information for responding to a drinking water contamination event.

This July, the Office of Drinking Water (ODW) teamed up with engineering firm CH2MHill to conduct tabletop counter-terrorism exercises in several locations throughout the state. The exercises were designed to demonstrate and test emergency response protocols during a simulated event in which drinking water is intentionally contaminated, or contamination is threatened.

Using a grant from the U.S. Environmental Protection Agency (EPA), we set out to better understand the roles, responsibilities, and effectiveness of local, state, and federal responders to an intentional drinking water contamination event.

Assuring Washington's citizens receive safe and reliable drinking water is ODW's top concern, and these exercises effectively built partnerships among response agencies at all levels with a stake in protecting public health during an emergency.

We used three contamination scenarios targeting medium-sized water systems. They were coordinated via a "trusted agent" from each of the water systems to produce a situation that was realistic and possible.

- A hijacked tanker truck filled with cyanide pumped into a raw water source.
- A tanker of botulism pumped into an open reservoir.
- A threat of contamination using ricin.

Getting the right players to the table

We found that our local partners' time was being taxed with drills and exercises. So, finding time in people's schedules to do another exercise

was not easy. Personal phone calls, letters describing the exercise, and follow-up contacts attracted key players from water utilities; local health jurisdictions, law enforcement and first responders, such as fire districts and county emergency response agencies; and state and federal agencies.

The exercises were intended to train participants and acquaint them with each other's emergency responsibilities and procedures. They also demonstrated operational capabilities, validated emergency response plans, and increased effective communication between responders and support agencies.

The experience brought people together who would not ordinarily interact with each other except during this type of emergency. Many participants expressed the benefits of meeting and working side-by-side with their local partners.

Lessons learned

The exercises demonstrated that, generally, water utilities and response organizations are experienced at handling many types of emergencies on a local level and, in some cases, establishing Incident and Unified Command. However, drinking water contaminated with a biological or chemical agent poses significant challenges that require a high-level of coordinated response and resources.

Many players, including utilities and local responders, were not aware of each other's roles and responsibilities, or of the breadth of resources available to them from state and federal agencies. For example, they didn't know EPA's Emergency Response Units can provide rapid field tests, or that sample gathering, using appropriate personal protective equipment, is accessible by calling the National Response Center or one of EPA's regional hotlines.

ODW will use the exercises to identify planning weaknesses and resource gaps, improve coordination among local, state, and federal responders, clarify roles and responsibilities, and improve performance when responding to security-related emergencies.

Resources

A summary of the exercises and a guide for planning and conducting tabletop exercises are on the ODW Web site at http://www.doh.wa.gov/ehp/dw/Security/Water_System_Security.htm

For more information, call Scott Decker at (360) 236-3162 or e-mail scott.decker@doh.wa.gov

A sample of lessons learned

- Utility emergency response plans should identify and include roles, responsibilities, and resources of first responders, and state and federal agencies.
- Emergency response organizations should ensure their plans are adequate to address a drinking water contamination event.
- A sampling protocol should be developed. It should address the method of collecting water samples, identify agencies responsible for sampling, explain how to transport samples for laboratory analysis, designate support laboratories, and include methods for obtaining sample analyses.
- A water utility checklist should be developed, including initial actions to support Incident Command. One step on the checklist should be to determine priorities for response, such as isolation of systems, notification, repair and recovery.
- Utilities, local health jurisdictions, and local responders should conduct regular exercises on all types of natural and security-related emergencies.
- Public information and risk communication between response agencies should be coordinated and practiced.
- Public information for non-English speaking populations should be included, where appropriate, for all types of communications, including news releases, news conferences and bulletins.

Update

Cross-connection control data collected for 2003



Last January, the Office of Drinking Water (ODW) requested 2003 cross-connection control (CCC) activities and program summary data from 206 of the largest community public water systems. Eight systems were asked to submit CCC forms for the first time.

As of Nov. 5, 195 systems (95 percent) had submitted their 2003 CCC report forms to ODW, compared to 97 percent of systems that reported by the end of last year. This year, 80 percent of the systems used the Internet to submit their data, compared to 68 percent last year.

Findings from the 2003 data

- 81 percent of systems have written CCC programs and implementation activities.
- 90 percent of systems have a state-certified cross-connection control specialist to develop and implement their CCC programs.
- 65 percent of more than 9,600 high-hazard premises met the backflow protection requirements.
- 80 percent of sewage-related facilities had the required backflow protection.
- 87 percent of the reduced-pressure principle backflow assemblies (RPBAs) were tested during the 2003 reporting year.
- 84 percent of double-check valve assemblies (DCVAs) were tested during the 2003 reporting year.

Follow-up activities

ODW recommended the Circuit Rider Program, offered by Evergreen Rural Water of Washington, to almost 50 public water systems reporting they did not have written CCC programs and/or implementation activities. The Circuit Rider Program provides free, one-on-one, on-site technical assistance to small public water systems in Washington. (See highlights in the box to right.)

How the 2003 data will be used

ODW will use the 2003 data to identify selected high-hazard premises for enforcement emphasis in 2004, update statewide information on the status of CCC program

development and implementation activities, identify public health trends, assess public health improvements, and identify guidance document and training needs.

Our long-term goal is to use the information to enhance public health protection in Washington through implementation of comprehensive CCC programs by public water systems.

Data Collection for 2004

Cross-Connection Control Program staff is working on the Web-based application and CCC report package for 2004. We plan to mail it soon. Once again, in January, we plan to hold training sessions to help water systems complete their CCC reports and to demonstrate the 2004 Web-based application.

For more information, call Terri Notestine at (360) 236-3133 or e-mail terri.notestine@doh.wa.gov

The Circuit Rider Program

CCC technical assistance available

Technical assistance in cross-connection control (CCC) is now available to small public water systems through the Circuit Rider Program. The service is due to an enhanced partnership between the Office of Drinking Water and Evergreen Rural Water of Washington (ERWOW).

ERWOW's Circuit Rider Program provides free, one-on-one, on-site technical assistance to small public water systems in Washington. Circuit riders can help systems:

- Develop new written CCC program plans.
- Update existing written CCC program plans.
- Resolve CCC program implementation issues, such as establishing priorities, implementation schedules, and enforcement procedures.

Technical assistance offered through the Circuit Rider Program will protect public health by helping systems ensure the quality of water they deliver to their customers.

For more information, call ERWOW at (800) 272-5981.

2004 Approved Backflow Assemblies List updated

The Department of Health's (DOH) 2004 List of Backflow Prevention Assemblies Approved for Installation in Washington State, also known as the DOH-Approved Assembly List, was updated and mailed to requesters in August. And updates were sent to recipients of the February 2004 list.

DOH's list is based on the University of Southern California's (USC) Foundation for Cross-Connection Control and Hydraulic Research List of Approved Backflow Prevention Assemblies.

We plan to publish a new list early next year.

Per our agreement with USC, the DOH-Approved Assembly List may not be widely distributed or posted on the

DOH Web site. Therefore, we distribute the list only upon request and limit distribution to the regulated community (i.e., purveyors, cross-connection control specialists, backflow assembly testers, building officials, and other state agencies) and consultants working in the drinking water industry in Washington.

To get a copy of the list

Interested parties must submit a request to DOH each calendar year to obtain the complete list at the beginning of the year. To request a copy of the 2004 list, or to be placed on a mailing list for the 2005 list, call (800) 521-0323 or e-mail amy.koch@doh.wa.gov

Please include your name, organization, operator certification number (if applicable), phone number, and regular mailing and e-mail addresses on your request.

For more information

For help interpreting the DOH-Approved Assembly List or information about the approval status of a specific assembly, please contact:

- Terri Notestine (360) 236-3133
terri.notestine@doh.wa.gov
- Simon Tung (360) 236-3132
simon.tung@doh.wa.gov

To meet Washington drinking water regulations, backflow assemblies used to protect public water systems from contamination via cross-connections must:

- *Appear on the most recently published DOH-Approved Assembly List.*
- *Be installed in the orientation in which they are shown on the DOH-Approved Assembly List.*

Water Quality Monitoring Report 2005

A new compliance period for chemical source monitoring

The Water Quality Monitoring Report (WQMR) for 2005 signals the beginning of a new three-year compliance period for chemical source monitoring requirements. It begins January 1 and extends through Dec. 31, 2007.

The Office of Drinking Water (ODW) mails the WQMR to all Group A community and non-transient non-community water systems. New for 2005, the Water Facilities Inventory (WFI) Report form sent to transient non-community water systems will include both coliform and nitrate monitoring requirements (see article at right).

With each new compliance period, water quality data, sampling history and waiver eligibility is evaluated to determine source-specific monitoring requirements for inorganic chemicals (IOCs), volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs).

To ensure your water system gets credit for sampling, put your ODW-assigned source number on the sample submission paperwork before you send water samples to the lab.

The WQMR is scheduled to be mailed to systems by the end of March. If your system has a quarterly monitoring requirement for nitrate, VOCs or SOCs, please don't wait to receive your WQMR. Instead, collect your sample(s) before March 31.

Chemical monitoring waivers

Eligibility for chemical monitoring waivers for the 2005 to 2007 compliance period will be determined on a source-specific basis. Waiver eligibility is based on considerations, such as:

- How susceptible a source is to contamination.
- Water quality history.
- Detection of contaminants in nearby wells or surface water supplies.

A waiver offer and information packet will be mailed to eligible systems next summer. If approved, the waiver will be effective for the three-year compliance period through 2007.

For more information

For more information, contact the Regional Water Quality Specialist listed on the back of your 2004 WQMR.

TNC Water Systems Nitrate requirements will be listed on WFIs

The Water Facilities Inventory (WFI) form has, for many years, included the routine coliform sampling schedule for transient non-community (TNC) water systems. Beginning in January, the WFI will also include the nitrate monitoring schedule.

Nitrate sampling will be required quarterly or annually, depending on previous source-specific water quality results. WFIs for TNC water systems are mailed the second quarter of each year.

Rule Making Activities

2005 Fee Increases

The Office of Drinking Water (ODW) is in the preliminary stage of assessing whether to increase Group A Drinking Water fees and Operator Certification fees.

Group A Drinking Water fees (Chapter 246-290 WAC) cover water system evaluations, and project review and approvals. Operator Certification fees (Chapter 246-292 WAC) cover certified operator applications and renewals.

ODW increases fees to the Initiative 601 fiscal growth factor cap annually to keep up with inflation. However, the cost to run these programs may exceed the revenue it receives from these increases. For fiscal year 2005, ODW is seeking approval from the Legislature to possibly increase fees over the limit.

ODW will seek input from stakeholders after an economic analysis has been developed and well in advance of the formal public hearing process. For more

information, please call Theresa Phillips, Rules Coordinator, at (360) 236-3147 or e-mail theresa.phillips@doh.wa.gov

Water Works Operator Certification Rule Revision

In January ODW will hold a public hearing on a proposal to revise the Operator Certification Regulations (Chapter 246-292 WAC). The revision will clarify ODW's authority to revoke or suspend water works operator certification to better address enforcement actions.

This rule package is set for adoption in February. It will go into effect in March 2005.

Drinking Water Operating Permits – Surcharge

In February ODW will hold a public hearing on a proposal to incorporate a surcharge of 25 cents per residential connection as authorized by the Municipal Water Law. ODW is developing a threshold to exclude small water systems from the surcharge because it would not bring in enough revenue to warrant charging the fee.

This rule package is set for adoption in March. It will go into effect in April 2005.

Group A Public Water Supplies – Section 2 – Planning and Engineering

The Municipal Water Law (MWL) amends the State Board of Health statute concerning planning and engineering requirements, which necessitate changes to the rule for consistency.

In addition to the changes required by the MWL, ODW would like to take the opportunity, while the regulations are open for revisions, to update, clarify, and modify some language to make the regulations easier to understand and improve compliance.

On Nov. 10, the State Board of Health authorized ODW to enter into rule making to make technical and process changes to planning and engineering requirements for consistency with the MWL, and changes for clarity and compliance improvements. We intend to hold a public hearing next fall, and adopt the rule by December 2005.

Security questions face pretest in February 2005

Ten security questions will be included at the end of the water operator certification exams in February 2005. The security questions are a “pretest” and will not be scored as part of the exam score. However, it is critical that examinees answer each question to the best of their ability; just as if it were being scored.

In 2003, the Association of Boards of Certification (ABC) received a grant from the U.S. Environmental Protection Agency to develop and validate security questions for operator certification exams. As part of this grant, ABC conducted a needs assessment survey to identify the areas of security that are most important for operators.

Questions were developed based on the needs assessment and a workshop was held this past July to review and validate the questions. The questions address security topics including emergency planning, vulnerability assessments, mitigation

measures, emergency response, and crisis communications.

As a final step in the grant, ABC has asked state certification programs to conduct a voluntary pretest of the questions.

The purpose of the pretest is to assess how well each question performs and resolve unforeseen problems before using questions on a scored version of an exam.

ABC will evaluate the questions through statistical analysis and comments received by examinees during the pretest.

Once the pretest is completed, ABC will begin including these questions on operator certification exams used by Washington Department of Health. The questions are referenced in the **Security Vulnerability Self Assessment Guide for Small Drinking Water Systems** by the Association of State Drinking Water Administrators and National Rural Water Association. You can get more information online at <http://www.asdwa.org/> (Click on “security” in the left-hand column).

If you have any questions, please call Cheryl Bergener at (800) 525-2536 or (360) 236-3137.



Especially for Small Systems

Pilot program reimburses cost of distance education

In January, the Office of Drinking Water (ODW) begins a one-year pilot program to reimburse small water system operators in Washington for successful completion of approved distance education. Up to 100 certified operators from small water systems, serving less than 3,300 people, will be able to apply for reimbursement.

Distance learning includes on-line, correspondence, CD-ROM and videotape courses. The program is designed to help small system operators meet their professional growth requirements by providing an alternative for those who have difficulty getting to classroom training.

Students must pay their enrollment fees in advance directly to the course sponsor. They may receive a maximum of \$200 in reimbursement for distance education completed following ODW's criteria.

The Certification Services Division of the Washington Environmental Training Center (WETRC) at Green River Community College will administer the program. Instructions and forms will be available from WETRC in January.

Certified operators will receive more detailed information about the reimbursement program in the mail and future issues of *Water Tap*.

2005 training for small water system operators

The Office of Drinking Water (ODW) is busy developing 2005 courses for small water system operators. We will also offer a limited number of repeat courses. In January, the fee for each class will go from \$15 to \$25. Employees from local health jurisdictions and board and commission members may attend these classes at the same cost.

ODW will continue to pay the full cost of conferences and most exam review courses for operators of small water systems.

The list of training opportunities begins on page 14. For small water systems, courses with an asterisk next to the price are \$25 and those with a "+" are free.

We are able to keep the cost of our training low because of a grant from the U.S. Environmental Protection Agency (EPA).

This ODW training program will help small water system operators who serve less than 3,300 people meet their professional growth requirements of three relevant continuing education units through 2006.

In January, we will introduce a pilot distance education reimbursement program. For information, see the article at left.

ODW wants your suggestions for new courses and comments on courses you've already attended. To share your ideas, please call Ronni Woolrich at (360) 236-3092 or e-mail ronni.woolrich@doh.wa.gov

Ten Ways to Save Money

When expenses are outpacing revenue, it's easy to say "we'll just raise rates." There are other ways to make ends meet, and your customers will appreciate you balancing the books without increasing their bill.

1. Collect overdue accounts – Collection and shutoff policies must be enforced or you're losing money.
2. Reduce system leaks – Water loss should be no more than 15 percent of the treated water you produce.
3. Make sure meters are working – Meters are to a water system what fare

counters are to cab drivers. If they aren't working, people are riding for free.

4. Update fees, deposits, charges – Check these items. Some may date back many years and be ready for a more realistic update.
5. Get bills out on time – Everyone who uses water should get a bill on a regular basis.
6. Find thieves – Water theft is a serious issue in some communities.
7. Buy in bulk – Purchasing supplies, such as chlorine, are usually cheaper in mass quantities. Consider working with neighboring systems to buy supplies and share equipment.

8. Add new customers – It may be cost effective to add nearby homes and businesses not currently in the distribution network.
9. Invest money – Find a bank that offers interest on your bank account. Put reserves in CDs or money market accounts.
10. Run the pumps at night – In some places, the electric utility offers significantly lower rates during off-peak hours.

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2005 Training and Education Calendar

Date	Topics	Location	Contact	Phone #	Cost/CEU
Jan 4-6	Cross Connection Control Exam Review	Olympia	ERWOW	1-800-272-5981	\$230/2.1
Jan 4-6	Water Distribution Certification Exam Review	Mt. Vernon	ERWOW	1-800-272-5981	Call /2.2†
Jan 4-6	Water Distribution Certification Exam Review	Auburn	WETRC	1-800-562-0858	\$275/2.1†
Jan 10-12	Cross Connection Control Basics and Exam Review	Auburn	WETRC	1-800-562-0858	\$275/2.1†
Jan 10-13	Backflow Assembly Tester Certification Class	Auburn	WETRC	1-800-562-0858	\$525/3.0
Jan 11-13	Water Distribution Certification Exam Review	Moses Lake	ERWOW	1-800-272-5981	Call TBD/2.2†
Jan 14	Backflow Assembly Tester Certification Exam	Auburn	WETRC	1-800-562-0858	\$180/NA
Jan 18-20	Cross Connection Control Exam Review	Richland	ERWOW	1-800-272-5981	\$230/2.1†
Jan 18-20	Water Distribution Certification Exam Review	Lacey	WETRC	1-800-562-0858	\$275/2.1†
Jan 18-20	Water Treatment Plant Operator Exam Review	Olympia	ERWOW	1-800-272-5981	\$230/2.1
Jan 19-20	Backflow Assembly Tester Professional Growth Exam Review	Auburn	WETRC	1-800-562-0858	\$205/1.5
Jan 21	BAT Professional Growth Exam	Auburn	WETRC	1-800-562-0858	\$105/NA
Jan 24-26	Cross Connection Control Basics and Exam Review	Vancouver	WETRC	1-800-562-0858	\$275/2.1†
Jan 25	Automatic Control Valves	Chelan	ERWOW	1-800-272-5981	Free/0.7
Jan 25	Local Hydraulics and Common Sources of Contamination	Enumclaw	ERWOW	1-800-272-5981	Free/TBA
Jan 25-27	Water Distribution Certification Exam Review	Olympia	ERWOW	1-800-272-5981	Call TBD/2.2†
Jan 25-27	Cross Connection Control Exam Review	Mt. Vernon	ERWOW	1-800-272-5981	\$230/2.1†
Jan 31-Feb 11	Backflow Assembly Tester Certification Class	Vancouver	WETRC	1-800-562-0858	\$525/3.0
Feb 2	Storage Tank Disinfection	Port Angeles	ERWOW	1-800-272-5981	\$25/0.5*
Feb 2-3	Process Control & Instrumentation	Lacey	WETRC	1-800-562-0858	\$225/1.4*
Feb 3	Storage Tank Disinfection	Shelton	ERWOW	1-800-272-5981	\$25/0.5*
Feb 7-10	Backflow Assembly Tester Certification Class	Auburn	WETRC	1-800-562-0858	\$525/3.0
Feb 8-10	Annual ERWOW Conference	Yakima	ERWOW	1-800-272-5981	Call for info†
Feb 8-10	Pump Operation and Maintenance	Everett	WETRC	1-800-562-0858	\$275/2.1*
Feb 9	Asbestos Cement Pipe Work Practice Procedures	Centralia	WETRC	1-800-562-0858	\$145/0.7
Feb 11	Backflow Assembly Tester Certification Exam	Auburn	WETRC	1-800-562-0858	\$180/NA
Feb 11	Local Hydraulics and Common Sources of Contamination	Vancouver	ERWOW	1-800-272-5981	Free/TBA
Feb 12	Backflow Assembly Tester Certification Exam	Vancouver	WETRC	1-800-562-0858	\$180/NA
Feb 15	Local Hydraulics and Common Sources of Contamination	Stevenson	ERWOW	1-800-272-5981	Free/TBA
Feb 15-16	Advanced BAT Troubleshooting & Repair	Auburn	WETRC	1-800-562-0858	\$275/1.4
Feb 15-24	Advanced BAT Troubleshooting & Repair	Vancouver	WETRC	1-800-562-0858	\$275/1.4
Feb 15-24	Backflow Assembly Tester Professional Growth Exam Review	Vancouver	WETRC	1-800-562-0858	\$205/1.5
Feb 16-18	Water & Wastewater Disinfection	Mt. Vernon	WETRC	1-800-562-0858	\$275/2.1*
Feb 18	Local Hydraulics and Common Sources of Contamination	Bainbridge Island	ERWOW	1-800-272-5981	Free/TBA
Feb 22	Local Hydraulics and Common Sources of Contamination	Redmond	ERWOW	1-800-272-5981	Free/TBA
Feb 22-24	Basic Electrical	Lacey	WETRC	1-800-562-0858	\$275/2.1
Feb 23	Local Hydraulics and Common Sources of Contamination	Port Angeles	ERWOW	1-800-272-5981	Free/TBA
Feb 23	Storage Tank Disinfection	Liberty Lake	ERWOW	1-800-272-5981	\$25/0.5*
Feb 23-24	Backflow Assembly Tester Professional Growth Exam Review	Auburn	WETRC	1-800-562-0858	\$205/1.5
Feb 24	Storage Tank Disinfection	Yakima	ERWOW	1-800-272-5981	\$25/0.5*
Feb 25	BAT Professional Growth Exam	Auburn	WETRC	1-800-562-0858	\$105/NA
Feb 26	BAT Professional Growth Exam	Vancouver	WETRC	1-800-562-0858	\$105/NA
March 1	Local Hydraulics and Common Sources of Contamination	Friday Harbor	ERWOW	1-800-272-5981	Free/TBA
March 14-17	Backflow Assembly Tester Certification Class	Auburn	WETRC	1-800-562-0858	\$525/3.0
March 15	Local Hydraulics and Common Sources of Contamination	Olympia	ERWOW	1-800-272-5981	Free/TBA
March 18	Backflow Assembly tester Certification Exam	Auburn	WETRC	1-800-562-0858	\$180/NA
March 21-24	27th Annual WA Water/Wastewater Ops Workshop (WOW)	Wenatchee	WETRC	1-800-562-0858	Call for info†
March 29-30	Backflow Assembly Tester Professional Growth Exam Review	Auburn	WETRC	1-800-562-0858	\$205/1.5
March 29	Local Hydraulics and Common Sources of Contamination	Long Beach	ERWOW	1-800-272-5981	Free/TBA
March 31	BAT Professional Growth Exam	Auburn	WETRC	1-800-562-0858	\$105/NA
Apr 4-5	Advanced BAT Troubleshooting & Repair	Auburn	WETC	1-800-562-0858	\$275/1.4
Apr 5-7	Water Works Basics	Lacey	WETRC	1-800-562-0858	\$275/2.1*
Apr 4-15	Backflow Assembly Tester Certification Class	Vancouver	WETRC	1-800-562-0858	\$525/3.0
Apr 6-8	Water Works Basics	Auburn	WETRC	1-800-562-0858	\$275/2.1*
Apr 7	Local Hydraulics and Common Sources of Contamination	Mt. Vernon	ERWOW	1-800-272-5981	Free/TBA

*Operators of Group A small water systems serving 3,300 people or less will be charged a \$25 registration fee for these classes.

† These classes are free for operators of Group A small water systems serving 3,000 people or less.

2005 Training and Education Calendar

Date	Topics	Location	Contact	Phone #	Cost/CEU
Apr 8	Asbestos Cement Pipe Work Practice Procedures	Spokane	WETRC	1-800-562-0858	\$145/0.7
Apr 12	Local Hydraulics and Common Sources of Contamination	Omak	ERWOW	1-800-272-5981	Free/TBA
Apr 13-15	Basic Electrical	Auburn	WETRC	1-800-562-0858	\$275/2.1
Apr 16	Backflow Assembly Tester Certification Exam	Vancouver	WETRC	1-800-562-0858	\$180/NA
Apr 19-21	Pump Operation and Maintenance	Wenatchee	WETRC	1-800-562-0858	\$275/2.1*
Apr 21	Local Hydraulics and Common Sources of Contamination	Yakima	ERWOW	1-800-272-5981	Free/TBA
Apr 18-21	Backflow Assembly Tester Certification Class	Auburn	WETRC	1-800-562-0858	\$525/3.0
Apr 19-28	Backflow Assembly Tester Professional Growth Exam Review	Vancouver	WETRC	1-800-562-0858	\$205/1.5
Apr 22	Backflow Assembly Tester Certification Exam	Auburn	WETRC	1-800-562-0858	\$180/NA
Apr 25-26	Backflow Assembly Tester Professional Growth Exam Review	Auburn	WETRC	1-800-562-0858	\$205/1.5
Apr 26	Local Hydraulics and Common Sources of Contamination	Morton	ERWOW	1-800-272-5981	Free/TBA
Apr 27	BAT Professional Growth Exam	Auburn	WETRC	1-800-562-0858	\$105/NA
Apr 30	BAT Professional Growth Exam	Vancouver	WETRC	1-800-562-0858	\$105/NA

*Operators of Group A small water systems serving 3,300 people or less will be charged a \$25 registration fee for these classes.

† These classes are free for operators of Group A small water systems serving 3,000 people or less.

For information about distance learning activities call WETRC at (800) 562-0858

Additional Training Links:

AWWA King County Subsection Web site—<http://www.kcawwa.org/>

ERWOW Web site—<http://www.erwow.org/>

WETRC Web site—<http://www.wetrc.org/>

AWWA Pacific Northwest Section Web site—<http://www.pnws-awwa.org/>

EPA electronic workshops Web site—<http://www.epa.gov/safewater/dwa/electronic.html>

For the complete Training Calendar visit the Drinking Water Homepage and click on Training - www.doh.wa.gov/ehp/dw

NOTE: Links to external resources are provided as a public service, and do not imply endorsement by the Washington State Department of Health.

New & Revised Publications



Operator certification exam results (331-267). New. A 2-page Q&A with answers to questions about operator certification exam results.

WSARP helps local governments maintain safe and reliable drinking water systems (331-268). A 4-page booklet detailing the

Water System Acquisition and Rehabilitation

Program (WSARP) grants being used to help municipal water systems acquire and rehabilitate other water systems with water quality problems.

Keeping your drinking water safe (331-275). A 22-minute video (VHS format) featuring interviews with water system operators, board members and Office of Drinking Water staff. It covers the history of waterborne disease outbreaks, the role of water systems in public health, key elements of keeping your water safe, and where to go for more information.

Water on tap: What you need to know (816-K-03-007). A 36-page publication produced by the U.S. Environmental Protection Agency that answers common questions about drinking water.

Cross connections can create health hazards. A 2-page brochure, produced by the American Water Works Association, Pacific Northwest Section (AWWA), that explains what cross connections

are, how contaminated water can flow backwards into a consumer's plumbing and the public water system, and where to get help to prevent backflow from occurring.

Help protect your drinking water from contamination. This 2-page brochure, produced by AWWA, explains how contaminated water from a sprinkler or a wading pool can flow back into the plumbing and the public water system.

Lawn irrigation systems and backflow prevention. This 2-page brochure, produced by AWWA, explains how to keep water in a lawn irrigation system from flowing backwards into a building's water supply.

Protect your water heater from thermal expansion. A 2-page brochure, produced by AWWA, explains that a functioning temperature and pressure relief valve prevents a water heater from exploding.

Residential fire sprinkler systems and backflow prevention. This 2-page brochure, produced by AWWA, explains how to protect homeowners and the public from hazards created by residential fire sprinklers, such as stagnant water, non-potable piping, bacteria and chemicals.

Office of Drinking Water publications are available on the Internet at http://www.doh.wa.gov/ehp/dw/our_main_pages/public.htm or by calling (800) 521-0323.

Did you get your Water Works Operator Renewal Notice?

Renewal notices were mailed to Certified Water Works Operators in November.

Please take a moment to check all the information on your renewal notice, make any needed corrections, and return it to us with the renewal fee. To avoid late fees, your renewal notice must be postmarked no later than January 21, 2005.

Happy New Year! Be sure to report any changes in your home address, employer, or your work and home telephone numbers. Every year, several operators lose their certification for non-payment simply because they do not give us their current home mailing address.

If you did not receive a renewal notice, please call the Water Works Operator Certification Program right away at (800) 525-2536 Ext. 1.



About this issue

The following people contributed articles to this issue of Water Tap: John Aden, Peggy Barton, Cheryl Bergener, Sara Brallier, Scott Decker, Chris Gagnon, Tracey Hunter, Judy Jones, Amy Koch, Denise Lahmann, Donna Lynch, Meliss Maxfield, Ethan Moseng, Terri Notestine, Derek Pell, Sam Perry, Theresa Phillips, Dan Sander, Paula Smith, Leslie Thorpe, Simon Tung, Michele Vazquez, Linda Waring (Editor).

The Department of Health, Office of Drinking Water, publishes Water Tap quarterly to provide information to water system owners, water works operators, and others interested in drinking water.

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